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EXPLANATION OF SIGNIFICANT DIFFERENCES for Operable Unit 2 of the Sharon Steel Corporation (Farrell Works Disposal Area) Superfund Site

I. INTRODUCTION

Site Name: Sharon Steel Corporation (Farrell Works Disposal Area) Site (“Site”), Operable Unit Two

Site Location: Mercer County, Pennsylvania (approximately one (1) mile southwest of the City of Farrell)

Lead Agency: U.S. Environmental Protection Agency, Region III (“EPA”)

Support Agency: The Commonwealth of Pennsylvania Department of Environmental Protection (“PADEP”)

II. STATEMENT OF PURPOSE

In accordance with Sections 117(c) and 117(d) of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended (“CERCLA”), 42 U.S.C. §§ 9617(c) and 9617(d), and Section 300.435(c)(2)(ii) of the National Oil and Hazardous Substances Pollution Contingency Plan (“NCP”), 40 C.F.R. § 300.435(c)(2)(ii), this Explanation of Significant Differences (“ESD”) documents changes to the interim remedial action selected by EPA for Operable Unit Two (“OU-2”) of the Sharon Steel Corporation (Farrell Works Disposal Area) Superfund Site (“Site”) in Mercer County Pennsylvania. EPA’s interim remedial action for OU-2 was selected in a Record of Decision (“ROD”) issued in December 2013. CERCLA and the NCP require publication of an ESD when EPA determines modifications to a remedial action selected in a ROD are necessary, and when such modifications significantly change, but do not fundamentally alter, the selected remedial action with respect to scope, performance or cost.

The interim remedial action for OU-2 selected by EPA in its December 2013 ROD includes capping all areas where slag is found with a low permeability asphalt (or asphalt-equivalent) cap, operation and maintenance of the cap, and institutional controls. As described in further detail in Section V below, by this ESD EPA is modifying the interim remedial action for OU-2 in several ways. First, EPA is changing the type of cover to be placed at OU-2 from an asphalt (or “asphalt-equivalent”) cover with a permeability less than 10^{-7} centimeters per second (“cm/s”) to one that may also consist of clean material such as aggregate or clean soil. Second, EPA is eliminating the requirement for “split spoon” confirmatory sampling to determine where slag exists beneath the surface of OU-2. Instead, the modified cover is to be installed over all exposed slag and soil. Third, EPA is adding a new requirement that a material/soil management plan be prepared to safeguard any covers installed or existing at OU-2. Fourth, the ESD expands institutional

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controls (“ICs”) to include maintenance of the soil/material management plan mentioned above.¹ Institutional controls, including the Site-wide use restrictions selected in the ROD for OU-1, should preferably be implemented by an Environmental Covenant recorded in accordance with Pennsylvania’s Uniform Environmental Covenants Act, 27 Pa. C.S. §§ 6501-6517. Fifth, the ESD provides for the potential extension of the biosolid-enhanced cap, which has been selected as the final remedy for Operable Unit One (“OU-1”) of the Site, to any unused portions of the northern area of OU-2 lying adjacent to OU-1 (See **Figure 1**). Finally, EPA is making two changes to the applicable or relevant and appropriate requirements (“ARARs”) selected in the interim ROD: (1) the provisions of Pa. Code Chapter 288 concerning requirements for residual waste landfill cap systems and closure are waived as ARARs in accordance with Section 300.430(f)(1)(ii)(C)(1) of the NCP because the cleanup alternative selected for OU-2 is an interim measure; and (2) EPA has determined that the provisions of Pa. Code Chapter 253 concerning Pennsylvania’s Uniform Environmental Covenants Act are not ARARs.

Public Participation for this ESD

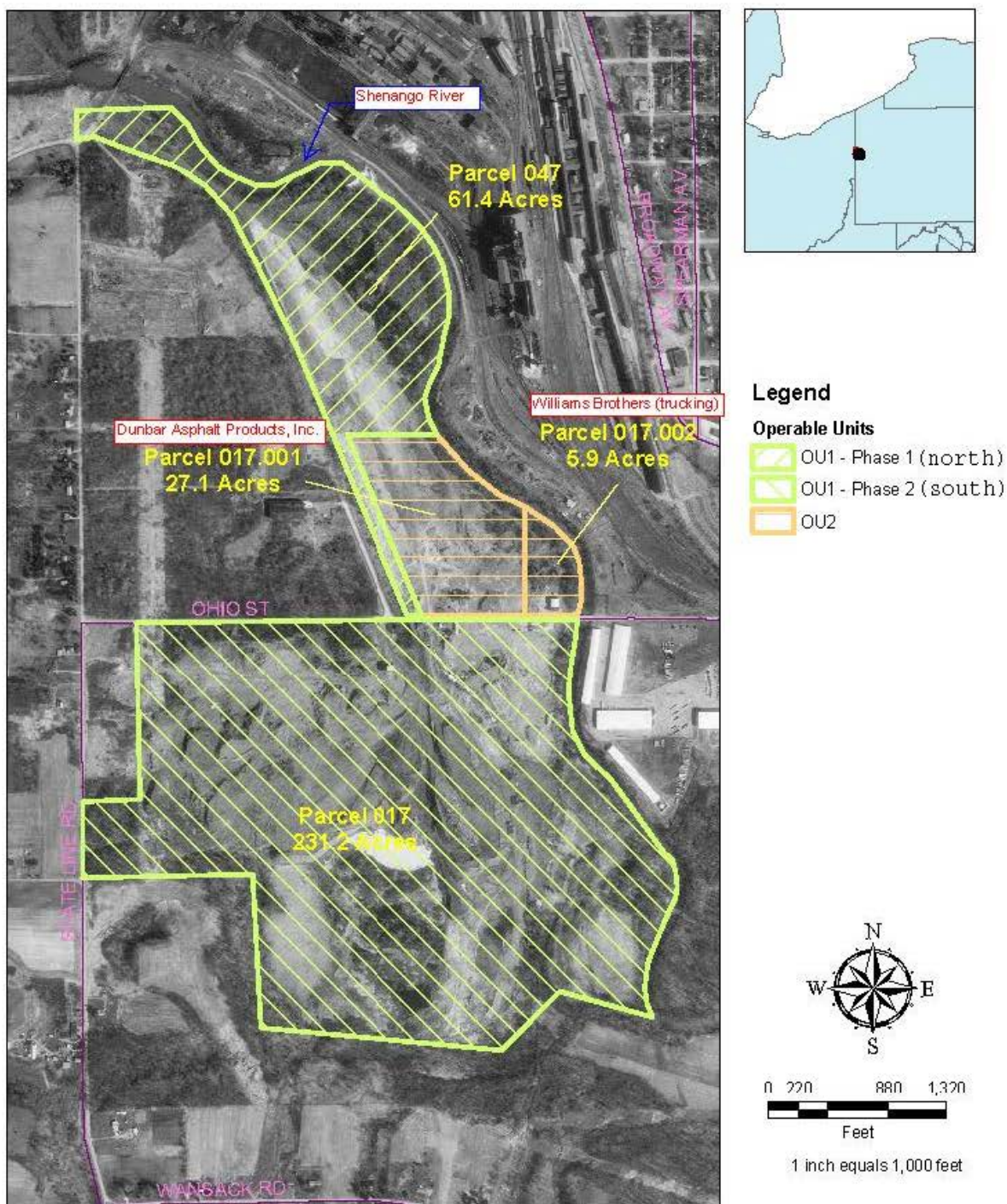
On May 7, 2015 EPA issued a draft of this ESD and provided the public an opportunity to comment on the proposed changes. EPA received one letter of comments during the thirty (30) day comment period. The commenter reiterated an opinion it had expressed during the public comment period for the interim ROD, namely that institutional controls alone on groundwater and surface use at the Site would sufficiently protect human health from releases of hazardous substances into groundwater and the air. After carefully considering this comment, EPA has determined that the modifications to the interim action remedy described in this ESD should remain unchanged from those proposed by EPA in the draft ESD.

The documents that form the basis for this ESD, as well as the ESD itself, any comments received on the draft ESD, and EPA’s responses to these comments, have been incorporated into the Administrative Record in accordance with Section 300.825(a)(2) of the NCP, 40 C.F.R. § 300.825(a)(2). The Administrative Record is available for review during business hours at the information repository in the offices of EPA Region III at 1650 Arch Street, Philadelphia, PA, and at the information repository at the Stey Nevant Library, Farrell, PA; and online at <http://www.epa.gov/arweb/>.

The changes made by this ESD do not change the overall goal of the interim remedial action for OU-2: to protect human health and the environment by addressing contamination in soils and mitigating potential impacts to surface water from the migration of Site-impacted soils. Indeed, as summarized above, this ESD enhances that goal by taking additional steps to protect the integrity of the cover, bolstering the ICs, and enhancing coordination between the final remedy for the adjacent OU-1 and the interim action at OU-2. This ESD significantly changes, but does not fundamentally alter, the interim remedial action selected for OU-2 with respect to scope, performance, or cost.

¹ EPA defines Institutional Controls (“ICs”) as “Non-engineered instruments, such as administrative and legal controls, that help to minimize the potential for human exposure to contamination and/or protect the integrity of a response action.” (U.S. EPA, 2012b. “Institutional Controls: A Guide to Planning, Implementing, Maintaining, and Enforcing Institutional Controls at Contaminated Sites,” OSWER 9355.0-89, EPA-540-R-09-001, December.)

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III. SUMMARY OF SITE HISTORY AND SITE CONDITIONS

The Site has a lengthy history. Presented below are highlights of the Site's background, operational history, site condition, and chronology. For a more detailed summary of the Site's history and conditions, as well as enforcement activities related to Site, the reader should review Section II of EPA's December 2013 interim ROD for OU-2. The interim ROD can be found in the Administrative Record, which may be reviewed at the public repositories mentioned above and on the Internet at <http://www.epa.gov/arweb/>.

A. Background

The Sharon Steel Corporation (Farrell Works Disposal Area) Superfund Site is approximately 325 acres in size and located approximately one mile southwest of the City of Farrell, Mercer County, Pennsylvania and 300 hundred feet east of the Pennsylvania/Ohio border. The Site has been separated into two OUs for the purpose of remedy implementation due to site ownership and property usage considerations (See **Figure 1**).

OU-1 consists of a total of 292 acres and has been divided into two sections to phase remedial action construction: OU-1 north (61 acres) and OU-1 south (231 acres). The final remedy for OU-1 was selected in a 2006 ROD and includes construction of a biosolid-enhanced cap. The remedial design for OU-1 north was completed in September 2012. Construction of the OU-1 northern portion of the remedy is presently awaiting funding. Design and construction of the remedy on OU-1 south will follow after completion of ongoing slag mining being performed under Pennsylvania beneficial reuse and mining permits.

OU-2, the subject of this ESD, is located between OU-1 north and OU-1 south and consists of two parcels totaling 33 acres, owned by Dunbar Asphalt Products, Inc. (26 acres) and Williams Brothers (7 acres). Dunbar Asphalt Products, Inc. ("Dunbar") operates an asphalt plant, while Williams Brothers operates a trucking company.

B. Operational History

The former Sharon Steel Plant, located across the Shenango River to the northeast of the Site, was founded in 1900 and manufactured a variety of steel products. Throughout the operating history of the plant, waste and byproducts of the manufacturing process were transported on rail cars across the Shenango River (via bridge) and discarded down embankments or piled into large mounds in several areas on the Site, adjacent to the Shenango River. From 1949 to 1981, waste liquids (acids and oils) were poured onto the hot slag wastes that were disposed of at the Site. This practice continued until 1981, when Sharon Steel was ordered by the Pennsylvania Department of Environmental Protection ("PADEP") to stop disposing the waste liquids in this manner. Although the disposal of waste liquids stopped in 1981, Sharon Steel continued to stockpile slag at the Site until operations at the plant stopped in 1992. PADEP conducted several inspections of the waste disposal areas in the 1970s and concluded that the contamination from the byproducts from the Sharon Steel Plant was responsible for the depressed biological community along at least 11.5 miles of the Shenango River. In 1992, Sharon Steel Corporation filed for bankruptcy.

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C. Site Condition

The Sharon Steel Plant is not part of the Superfund Site. The environmental contamination resulting from plant operations at the Sharon Steel Plant on the east side of the Shenango River is being addressed by PADEP in accordance with the requirements of Pennsylvania's Act 2 Cleanup Program. The Superfund Site is OU-1 and OU-2, the locations of slag and other waste disposal just west of the Shenango River.

The large mounds of slag wastes abandoned on the west side of the Shenango River and the contamination resulting from the slag wastes were evaluated under CERCLA. In August 1993, samples of groundwater, soil, sediment, and surface water were collected and analyzed during an Expanded Site Investigation ("ESI") to assess site conditions and, later, to support the preparation of a Hazard Ranking System ("HRS") score. The investigation identified metals and organic compounds at the Site. It was formally added to the National Priorities List ("NPL") on July 28, 1998, making it eligible for Federal cleanup funds.

In October 1999, EPA initiated a Remedial Investigation ("RI") for the Site to evaluate existing data; collect additional data, as necessary; and assess and consider appropriate actions. Performed in two phases between 1999 and 2004, the RI involved groundwater sampling, surface and subsurface soil sampling, residential well sampling, surface water and sediment sampling, biota sampling (fish, crayfish, amphibians, mammals, and reptiles), slag/sludge sampling in disposal areas, and assessments of human health and ecological risks posed by the Site. The results of the Phase 1 and 2 investigations are summarized in the Final RI report, dated June 2005. The Final RI report concluded that the Site presents unacceptable risks to human health and the environment; therefore, remedial actions are required to control, reduce, or eliminate these risks.

The majority of residents in the vicinity of the Site receive drinking water from the Aqua America Company whose raw water is drawn from the Shenango River 3.5 miles upstream and 18 miles downstream of the Site. Data collected during the RI, including private well sampling, indicate that private wells in the Site's vicinity are not impacted by the Site. The private wells are located topographically and hydrogeologically above groundwater at the Site. However, groundwater contamination found in the on-Site shallow aquifer does impact the Shenango River. The ROD for OU-1 provides a remedy for Site-wide groundwater.

The unacceptable health risks to human receptors on OU-2 are to industrial and construction workers, future residents (if Site use were unrestricted), and nearby current residents. Health risks exceed the acceptable non-carcinogenic risk due to incidental ingestion, dermal contact, and inhalation of dust from metals in the slag and soil. The metals that are chemicals of concern are: arsenic, barium, iron, nickel and vanadium, aluminum and manganese, with manganese exposure being the predominant risk-driver. EPA has also concluded that runoff from slag-contaminated areas poses an unacceptable risk to surface water and sediments.

The ecological risk evaluation indicated that potential risk is posed by OU-2 floodplain soils to plants, soil invertebrates, and vermivorous birds. The primary risk drivers were chromium, iron, and manganese for plants; iron for invertebrates; and, chromium and

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polyaromatic hydrocarbons (“PAHs”) for vermivorous birds. The upland soils pose a potential risk to the same receptors as the floodplain soils. The primary risk drivers were also chromium, iron, and manganese for plants; iron for invertebrates; and, PAHs for vermivorous birds. The remedial alternatives for the floodplain were evaluated in a Feasibility Study for OU-1 and selected as part of the OU-1 ROD. It was during the preparation of the OU-1 Feasibility Study that the Site was divided into two Operable Units, OU-1 and OU-2, so the businesses located on OU-2 (Dunbar Asphalt Products, Inc. and Williams Brothers trucking) could continue to operate.

A Feasibility Study (“FS”) report for OU-2 was prepared in September 2007 to develop an appropriate range of remedial actions for addressing wastes and contaminated areas on OU-2 of the Site in a manner that would protect human health and the environment and meet ARARs. As described in the OU-2 interim ROD, the remedial alternatives analyzed during the FS included: Alternative 1-No Action; Alternative 2a-Purchase of Two Properties, Relocate Impacted Businesses and Move Equipment of Two Businesses to new location, Construction of a Biosolids and Compost Cap, Institutional Controls and Demolition of Buildings; Alternative 2b-Purchase of Two Properties and Relocate Impacted Businesses, Appraise and Pay for the Businesses' Equipment, Demolish Buildings, Construct a Biosolids and Compost Cap, and Implement Institutional Controls; and Alternative 3-Construction of an Asphalt Cap or Asphalt-Equivalent Cap at the Two Businesses Located on this Property, and Institutional Controls. In the OU-2 ROD, Alternative 3 was selected as the interim remedial action.

D. Chronology

Table 1, below, provides a chronology of key Site events.

Table 1. Chronology of Key Site Events

Event	Date(s)
Sharon Steel operations and slag/waste disposal at Site	1900 to 1992
Waste liquids (acids and oils) were poured onto the hot slag wastes, which were subsequently disposed of at the Site.	1949 to 1981
PADEP order to Sharon Steel to stop disposing waste liquids in this manner (slag/waste disposal continued)	1981
Sharon Steel plant operations (and slag/waste disposal) ended, and Sharon Steel filed for bankruptcy	1992
EPA conducted Expanded Site Investigation ("ESI") to allow HRS scoring	1993
Sharon Steel Corp (Farrell Works Disposal Area) Site proposed for listing on the National Priorities List (“NPL”)	March 6, 1998
Sharon Steel Corp (Farrell Works Disposal Area) Site formally added to the NPL	July 28, 1998

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Event	Date(s)
Remedial Investigation (“RI”) completed for entire Sharon Steel Corp (Farrell Works Disposal Area) Site (Final RI report issued)	June 2005
Feasibility Study (“FS”) completed for OU-1 (Final FS report issued)	June 2006
Proposed Remedial Action Plan for OU-1 is released for comment	July 16, 2006
ROD for OU-1 signed by EPA	November 14, 2006
FS completed for OU-2 (Final FS report issued)	September 2007
EPA updated the OU-2 human health risk assessment	February 7, 2012
Proposed Remedial Action Plan for OU-2 is released for comment	September 13, 2012
Remedial Design for OU-1 north (or “Phase 1”) is completed	September 28, 2012
ROD for interim remedial action at OU-2 signed by EPA	December 19, 2013
EPA sends Dunbar Asphalt Products, Inc. (“Dunbar”) a Special Notice Letter in accordance with Section 122 of CERCLA inviting Dunbar to negotiate a settlement for implementing the OU-2 ROD.	July 8, 2014
Dunbar submits to EPA a “good faith” proposal in response to the Special Notice Letter.	August 5, 2014
Department of Justice (“DOJ”), on behalf of EPA, responds to Dunbar’s “good faith” proposal and initiates “formal negotiations” with Dunbar for a Remedial Design/Remedial Action (“RD/RA”) Consent Decree (“CD”).	August 27, 2014
Parties (Dunbar, DOJ, and EPA) meet at Site to tour it and begin face-to-face negotiations of a RD/RA CD. During meeting, Dunbar requests EPA to reconsider selected interim action remedy for OU-2.	September 29, 2014

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IV. DESCRIPTION OF THE SELECTED INTERIM REMEDIAL ACTION FOR OU-2

EPA issued its interim action ROD for OU-2 on December 19, 2013. The ROD for OU-2 identified five Remedial Action Objectives (“RAOs”) to be addressed by the interim action. The RAOs are listed below in Table 2, with numbering added solely for convenience.

Table 2. Remedial Action Objectives as Stated in the OU-2 Interim Action ROD

Remedial Action Objectives of OU-2 ROD
“1. Prevent dermal and ingestion exposure to slag, for the industrial workers, trespassers, and nearby or potential future residents.
2. Prevent inhalation of dust in air above health-based action levels so that Site conditions do not pose an unacceptable risk for the industrial workers, trespassers, and nearby or potential future residents.
3. Reduce future migration of chemicals into shallow groundwater in order to avoid negatively impacting the OU-1 groundwater remedy. ^[2]
4. Reduce surface runoff including storm water and discharge of source materials from the Site into the Shenango River.
5. The purpose of the selected interim action is to address contaminated metals in the slag and contaminated soil that pose an unacceptable risk to human health.”

The interim remedial action selected for OU-2 to achieve the above RAOs includes the components listed in Table 3. Table 4 lists the Performance Standards specified in the 2013 OU-2 ROD for the selected interim action.

Table 3. Components of the Selected OU-2 Interim Remedial Action as Stated in the 2013 OU-2 ROD (Section M.)

OU-2 Interim Remedial Action Components (2013 ROD)
“1. Capping OU2 to prevent erosion of slag from the Site negatively impacting the Shenango River and adjacent habitats.
2. Asphalt will be used in pavement of the estimated six acres on the Dunbar Property (6 acres of the 27 acres) and estimated one acre on the William Brothers property (1 acre of the 6 acres).
3. Confirmation sampling of ...the other estimated 21 acres on the Dunbar property and estimated 5 acres on the William Brothers property will be conducted through boring sampling outlined in section M.2 [Performance Standards] of this ROD to determine if there is additional

² The groundwater remedy for the Site is provided for in the ROD of OU-1. The selected OU-1 remedy includes placing a biosolid-enhanced “cap” over slag and sludge material within OU-1, which generally will encompass the areas posing a greater adverse impact to Site groundwater. The biosolids cap will provide treatment of the slag and sludge by binding with the metals. This treatment will reduce the mobility of the metals to the groundwater.

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OU-2 Interim Remedial Action Components (2013 ROD)
slag present. All slag will be covered by an asphalt or asphalt equivalent cap (See Figure 3 and 4) [Refer to the OU-2 ROD]. The elevation and grade of the capped areas and non-capped areas in OU2 shall promote site drainage and minimize erosion.
4. An Operation and Maintenance Plan will be included as part of the design determining storm water control, the frequency of inspection of the capped areas and what time period is necessary to correct a breach with any component of the cap. This alternative shall (1) prevent contact with the slag and contaminated soil, (2) prevent the migration of slag dust from the Site, and (3) reduce groundwater infiltration and leaching of contamination from the slag which would reduce surface water contaminated runoff and shallow contaminated groundwater to the Shenango River so as to not negatively affect the groundwater remedy in OU1 for the Site.
5. Land use restrictions and institutional controls will be documented in a Land Use Control Assurance Plan ("LUCAP") to protect the integrity of the asphalt cap or asphalt equivalent cap. The LUCAP will include controls for OU2.
6. The OU2 institutional controls are for land use restrictions to protect the asphalt cap or asphalt equivalent cap.”

Table 4. Performance Standards for the Cover System as Stated in the OU-2 ROD (Section M.2)

OU-2 Interim Remedial Action Performance Standards of OU-2 ROD (Section M.2)
<p>“1. Conduct sampling to identify the lateral and vertical extent of slag throughout the OU2 area (specified in Figures 3 & 4) [Refer to the OU-2 ROD] where an asphalt cap, or asphalt equivalent cap, will be constructed.</p> <ul style="list-style-type: none"> a. Move aggregate piles temporarily as necessary to accomplish such sampling. b. Conduct continuous split spoon sampling until native soils are reached in each borehole location. c. Measure the permeability of the subsurface in all boreholes where slag is present.
<p>2. Construct an asphalt cap, or asphalt equivalent cap, above all slag present in the OU2 area, including that identified pursuant to the sampling in 1 above.</p> <ul style="list-style-type: none"> a. The asphalt cap, or asphalt equivalent cap, shall have a permeability less than 1×10^{-7} cm/sec [centimeters per second] in order to minimize the migration of rainwater through the asphalt cap or asphalt equivalent cap. b. The cap shall promote drainage, minimize erosion, and require minimum maintenance.
3. The elevation and grade of the capped areas and non-capped areas in OU-2 shall promote site drainage and minimize erosion.
4. Control storm water flow in OU2 to minimize impacts to the Shenango River.

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OU-2 Interim Remedial Action Performance Standards of OU-2 ROD (Section M.2)

5. Prohibit activities, unless approved by EPA in consultation with PADEP, that could damage the asphalt cap or asphalt equivalent cap areas placed in the OU2 areas (specified in Figures 3 and 4) [Refer to the OU-2 ROD] described in 2 above through the implementation of institutional controls.”

V. SIGNIFICANT DIFFERENCES AND BASIS

EPA has determined that the following changes are necessary to the interim action to ensure it is implementable, protective, and properly safeguarded in light of ongoing commercial operations on OU-2. For clarity, the below changes address both the components of the selected interim remedial action (Table 3) and the associated Performance Standards specified in Section M.2 of the OU-2 ROD (Table 4). Where numbered remedy components or Performance Standards are used below, they refer to the numbering in Tables 3 and 4, which are identical to how they are numbered in the OU-2 ROD. In addition, modifications to the ARARs are being made.

1. Interim Action Remedy Components Withdrawn: Components 2 and 3 of the interim remedial action and Performance Standards 1, 2 and 2.a, as described in the OU-2 ROD, are withdrawn and replaced with the following requirements:

Cover all exposed slag and soil, including berms, with clean material (e.g., compacted aggregate, clean soil) at a minimum thickness of one (1) foot if clean soil or aggregate, or minimum of 3 inches if asphalt concrete (“AC”) or Portland cement concrete to prevent direct contact with and wind erosion of slag and soil, and alleviate migration of contaminants to surface water. Berms and drainage swales should be vegetated to reduce stormwater runoff volume and alleviate thermal impact of runoff. Where clean soil is used as cover material, an inert demarcation layer shall be installed across the area being covered. The demarcation layer must provide a visual indicator that distinguishes the soil beneath the demarcation layer from overlying clean soil. The elevation and grade of the covered areas and non-covered areas in OU-2 shall promote site drainage and minimize erosion.

Discussion: This change to the interim action replaces installation of a low permeability cap with a containment cover that provides the dermal and air exposure protections that are the primary reasons for this action. As described in the footnote to Table 2 above, the Site-wide groundwater remedy is included in the remedy selected in the OU-1 ROD. The permeability Performance Standard (Table 4, 2.a.) is being removed as it is a requirement of an ARAR that is being waived for this interim action, as described in Section V.4 below. With respect to cost, this change in cover type and location is estimated to cost approximately \$2.1 million, including design, construction and O&M. This compares favorably with the \$2.8 million estimated cost for capping presented in the ROD, and is not fundamentally different.

Basis for change: In 2006, the Site was divided into OUs 1 and 2 to accommodate continued business operations located on OU-2. It was EPA’s intent that both

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businesses located on the property (Dunbar and Williams Brothers trucking) be able to continue operations even while a remedy on OU-2 is selected and implemented. During a September 2014 site visit, EPA learned more about Dunbar's physical operations on OU-2. Based on that improved understanding, EPA has determined that the 2013 OU-2 ROD is arguably not implementable due to the interference it would cause to on-Site business operations. EPA believes that the changes in this ESD can be implemented in concert with ongoing business operations and will still meet the above stated remedial objectives for this interim action. EPA's Remedial Project Manager's Memo to File dated December 8, 2014 documents observations made and discussions held during the September 2014 Site visit; it is included as part of the Administrative Record.

2. Interim Action Remedy Components 4, 5, and 6 Modified: Prevent damage to all covered areas of OU-2 that may cause exposure to, or releases of, hazardous substances. Implement this requirement with institutional controls and a Material and Soil Management Plan, which will supplement the O&M plan required in the 2013 OU-2 ROD, specifying operational practices to be followed on OU-2 to protect all covered areas.

Discussion: In addition to the Site-wide ICs selected in the OU-1 ROD (i.e., prohibition on use of Site groundwater for drinking purposes and prohibition on use of Site for residential purposes), the ROD for OU-2 also required a prohibition on activities that could damage the asphalt (or asphalt-equivalent) cap installed at OU-2 as part of the interim remedial action, unless EPA first approved these activities after consultation with PADEP. This prohibition shall be expanded to include any areas at OU-2 covered in accordance with this ESD. Additionally, current and future operations on OU-2 shall be conducted in accordance with an EPA-approved O&M Plan and EPA-approved Material and Soil Management Plan.

Basis for change: While the OU-2 ROD requires preparation of an O&M plan for the cover, EPA recognizes that the on-Site business operations (some of which utilize excavation and earthmoving equipment) warrant an additional safeguard to ensure that day-to-day operations do not expose Site workers or the environment to releases of hazardous substances. The new requirement for an OU-2-specific Material and Soil Management Plan addresses this concern and is not a significant change to the cost or scope of the interim action selected for OU-2.

EPA also wishes to clarify that any area of OU-2 covered in accordance with this ESD, and not just areas covered with an asphalt or asphalt-equivalent cover, must be protected from activities that would damage the covers and cause exposure to, or releases of, hazardous substances. In addition, the required Material and Soil Management Plan will provide protection to any newly covered areas of OU-2, as well as any areas of OU-2 currently meeting the requirements of this ESD because they are covered either by asphalt concrete, concrete, aggregate piles or by several feet of compacted aggregate.

Implementation of Institutional Controls: EPA intends to ask the owners of the two parcels comprising OU-2 to record environmental covenants in accordance with Pennsylvania's Uniform Environmental Covenants Act, 27 Pa. C.S. §§ 6501-6517.

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These environmental covenants would implement the ICs described in this ESD and the 2013 OU-2 ROD, as well as any Site-wide institutional controls required in the 2006 OU-1 ROD, namely prohibitions on the use of Site groundwater and reuse of the Site for residential purposes.

3. New Requirement: Install a biosolid-enhanced cap and implement stormwater controls on the northern portion of Dunbar's property at OU-2 not used for Dunbar's business operations.

Discussion: As discussed in Section III.A of this ESD, EPA selected, among other things, installation of a biosolid-enhanced cap as the remedial action for OU-1 of the Site. During EPA's September 2014 visit to OU-2 and observation of Dunbar's operations, EPA learned that a relatively small portion of Dunbar's property is not used in their operations, particularly along the northern boundary, adjacent to OU-1. Depending on the relative progress of the cleanups at OU-1 and OU-2, either the remedial design of the interim action at OU-2 or the existing remedial design for OU-1 may be changed to accommodate the other, with the preference being to have the OU-1 remedy be as expansive as possible. Combining the stormwater controls for both OUs would be a more effective and spatially efficient single system.

Basis for change: This change would allow for the OU-1 remedy to be expanded into a portion of OU-2 to the extent practicable based on discussions with Dunbar and engineering considerations during the remedial design of OU-2's interim remedial action.

4. Modifications to ARARs: The following requirements listed as ARARs in the OU-2 ROD are being waived for this interim action: the provisions of Pa. Code Chapter 288 concerning requirements for residual waste landfill cap systems and closure (i.e., 25 Pa. Code §§ 288.234, 288.236, 288.291, and 288.292). EPA has determined that the requirements of Pennsylvania's Uniform Environmental Covenants Act, 27 Pa. C.S. §§ 6501-6517 (cited as 25 Pa. Code §§ 253.2, 253.3 and 253.4 in the OU-2 ROD) are not ARARs.

Basis for change: EPA has determined that the Pennsylvania residual waste landfill final cover and closure requirements are not "applicable" because they have an effective date of January 13, 2001, which is after the slag disposal at the Site took place. While these requirements may nevertheless be "relevant and appropriate," EPA will hereby waive these requirements in accordance with Section 300.430(f)(1)(ii)(C)(1) of the NCP, 40 C.F.R. § 300.430(f)(1)(ii)(C)(1), because the cover described in this ESD is an interim measure. The specific ARARs being waived include the cap Performance Standard of having a permeability less than 1×10^{-7} cm/sec. The NCP at 40 C.F.R. § 300.430(f)(1)(ii)(C)(1) allows for selection of a remedy that does not meet an ARAR if the alternative is an interim measure and will become part of a total remedial action that will attain the ARAR. A future final ROD will select a final remedy for OU-2, and as part of that decision, ARARs will be identified, and the final on-Site remedy will either meet each ARAR or an appropriate waiver will be invoked as required by the NCP.

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EPA has also determined that Pennsylvania's Uniform Environmental Covenants Act is not an ARAR because it is not a "substantive" cleanup standard or standard of control. Rather, it is a procedural, legal tool for implementing ICs.³ Nevertheless, EPA intends to ask the owners of the two parcels comprising OU-2 to agree to record environmental covenants in accordance with Pennsylvania's Uniform Environmental Covenants Act in order to implement the ICs.

Net Effect of Significant Differences to the Interim Remedial Action at OU-2

Since this ESD includes multiple significant changes to the OU-2 interim ROD, Table 5, on the following page, is included to clearly identify the net effect of these changes. Stated another way, Table 5 presents what the revised OU-2 interim action will be as a result of these changes.

VI. SUPPORT AGENCY COMMENTS

In accordance with Section 300.435(c)(2) of the NCP, 40 C.F.R. § 300.435(c)(2), EPA has consulted with PADEP about the modifications in this ESD, and PADEP supports the modifications.

VII. STATUTORY DETERMINATIONS

EPA has determined that the modifications to the interim remedial action described in this ESD comply with the statutory requirements of Section 121 of CERCLA, 42 U.S.C. § 9621. The modifications to the interim remedial action will protect human health and the environment and are cost-effective. The modifications also meet all Federal and State ARARs enumerated in the ROD, except those provisions of the PA Code identified in Section V.4 above that EPA is waiving because this is an interim measure or EPA has determined are not ARARs because they are not substantive cleanup standards.

VIII. COMMUNITY INVOLVEMENT

In accordance with Section 117(d) of CERCLA, 42 U.S.C. Section 9617(d), and Section 300.435(c)(2)(i)(B) of the NCP [40 C.F.R. § 300.435(c)(2)(i)(B)], EPA published a "Notice of Availability" for a draft of this ESD in *The Herald*, of Sharon, Pennsylvania on May 7, 2015. EPA provided the public with an opportunity to comment on the draft ESD. The opportunity to comment ended on June 5, 2015, thirty (30) days after the date the Notice of Availability was published in *The Herald*. EPA received one letter of comments. The commenter reiterated an opinion it had expressed during the public comment period for the interim ROD, namely that institutional controls alone on groundwater and surface use at the Site would sufficiently protect human health from releases of hazardous substances into groundwater and the air. After carefully considering this comment, and for the reasons discussed in this Section, EPA has determined that the modifications to the interim action remedy described in this ESD should remain unchanged from those proposed by EPA in the draft ESD.

³ As defined in Section 300.5 of the NCP [40 C.F.R. § 300.5], both "applicable requirements" and "relevant and appropriate requirements" must be "substantive" requirements.

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In accordance with Section 300.430(a)(1)(iii) of the NCP, EPA's selection of remedial alternatives gives priority to actions that treat wastes or use engineering controls where appropriate. Institutional controls are used to supplement active response measures, as well as to ensure the long-term protection of remedial actions. *See* 40 C.F.R. § 300.430(a)(1)(iii). In this case, institutional controls alone would not address the unacceptable risks to human health and the environment posed by hazardous substances present in areas of exposed slag or contaminated soil at the Site. Engineering controls, such as the covers required on all areas of exposed slag or soil, and the required Soil Management Plan will address these risks.

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Table 5. Revised Interim Action for OU-2

Components	Description of Revised Remedy Components and Performance Standards	Comments
1.	Capping OU-2 to prevent erosion of slag from the Site negatively impacting the Shenango River and adjacent habitats.	Unchanged Component 1 of the OU-2 interim ROD. A general description of the interim action that remains accurate.
2.	<p>Cover all exposed slag and soil, including berms*, with clean material (e.g., compacted aggregate, clean soil) at a minimum thickness of one (1) foot if clean soil or aggregate, or minimum of 3 inches of asphalt concrete (“AC”) or Portland cement concrete to prevent direct contact with and wind erosion of slag and soil, and reduce migration of contaminants to surface water. (*Berms and drainage swales should be vegetated to reduce stormwater runoff volume and alleviate thermal impact of runoff.) Where clean soil is used as cover material, an inert demarcation layer shall be installed across the area being covered. The demarcation layer must provide a visual indicator that distinguishes the soil beneath the demarcation layer from overlying clean soil.</p> <p>The elevation and grade of the covered areas and non-covered areas in OU-2 shall promote site drainage, minimize erosion, and require minimum maintenance. Control storm water flow in OU-2 to minimize impacts to the Shenango River.</p>	ESD Change 1—replaces Components 2 and 3, and Performance Standards 1 and 2 of the OU-2 interim ROD. Retains Performance Standards 3 and 4 of the OU-2 ROD.
3.	An Operation and Maintenance Plan will be included as part of the design determining storm water control, the frequency of inspection of the capped areas and what time period is necessary to correct a breach with any component of the cap. This alternative shall (1) prevent contact with the slag and contaminated soil, (2) prevent the migration of slag dust from the Site, and (3) reduce groundwater infiltration and leaching of contamination from the slag which would reduce surface water contaminated runoff and shallow contaminated groundwater to the Shenango River so as to not negatively affect the groundwater remedy in OU-1 for the Site.	Unchanged Component 4 of the OU-2 interim ROD. While the type of cap/cover has changed, the requirement for appropriate O&M remains.
4.	Prevent damage to all covered areas of OU-2 that may cause exposure to, or releases of, hazardous substances. Implement this requirement with institutional controls and a Material and Soil Management Plan, which will supplement the O&M plan required in the ROD, specifying operational practices to be followed on OU-2 to protect all covered areas.	ESD Change 2—adds requirement for Material and Soil Management Plan and expands ICs to all covered areas.
5.	Land use restrictions and institutional controls will be documented in a Land Use Control Assurance Plan ("LUCAP") to protect the integrity or the asphalt cap or asphalt equivalent cap. The LUCAP will include controls for OU-2.	Same as Component 5 of the OU-2 interim ROD. Should now document ICs for all covered areas.
6.	<p>The OU-2 institutional controls are for land use restrictions to protect any areas covered as part of this interim action.</p> <p>Prohibit activities, unless approved by EPA in consultation with PADEP, that could damage the covered areas placed in OU-2 through the implementation of institutional controls.</p>	Essentially the same as Component 6 and Performance Standard 5 of the OU-2 interim ROD except that reference to Performance Standard 2 of the ROD is removed since this ESD (Change 1) replaced it. Component 4 of this ESD (Change 2) above expands IC requirements to areas not covered by an asphalt cap.
7.	Install a biosolid-enhanced cap and implement stormwater controls on the northern portion of Dunbar’s property at OU-2 not used for Dunbar’s business operations.	ESD Change 3
8.	The following requirements listed as ARARs in the OU-2 ROD are waived as ARARs: the provisions of Pa. Code Chapter 288 concerning requirements for residual waste landfill cap systems and closure (i.e., 25 Pa. Code §§ 288.234, 288.236, 288.291, and 288.292); and Pennsylvania’s Uniform Environmental Covenants Act, 27 Pa. C.S. §§ 6501-6517 (cited as 25 Pa. Code §§ 253.2, 253.3 and 253.4 in the OU-2 ROD) has been determined to not be an ARAR.	ESD Change 4

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This ESD is supported by and will be incorporated into an Administrative Record. The Administrative Record includes the documents that form the basis for the interim remedial action modification described in this ESD, any public comments on the draft version of this ESD received by EPA, and EPA's responses to these comments. The Administrative Record is available for public review at the following locations:

Stey Nevant Library
1000 Roemer Blvd.
Farrell, PA 16121
(724) 983-2714

EPA Region III
1650 Arch Street
Philadelphia, PA 19103-2029
(215) 814-3157

or on the internet at: <http://www.epa.gov/arweb/>.

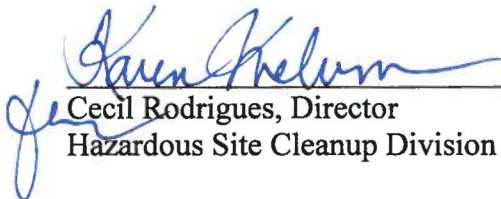
Questions on EPA's action and requests to review the Administrative Record can be directed to:

Stephen F. Tyahla (3HS22)
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IX. SIGNATURE

This Explanation of Significant Differences modifies the OU-2 interim remedial action set forth in the OU-2 ROD of December 19, 2013 for the Sharon Steel Corporation (Farrell Works Disposal Area) Superfund Site to include changes to the type and location of cover, preparation of a Materials & Soil Management Plan, changes to the institutional controls, and potential extension of the adjacent OU-1 remedy onto OU-2.

Approved by



Cecil Rodrigues, Director
Hazardous Site Cleanup Division

JUN 23 2015

Date